INFO/CS 4302
Web Information Systems

FT 2012
Week 8: Global Data Networks Intro

- Bernhard Haslhofer -

Plan for today…

- Discussion of HW6 (RESTful Web Services)

- Project Proposal Q & A

- Global Data Networks & Linked Data

- Questions, Housekeeping, …

DISCUSSION OF HW6

HW6: RESTful Webservice (Due: 10/18 11:59pm)

Create a RESTful Webservce for retrieval and manipulation of actor and movie data. It should use the movie/actor dataset and implement the following use cases:

- UC1: Retrieve a list of all actors
- UC2: Retrieve a list of all movies
- UC3: Retrieve a specific actor
- UC4: Retrieve a specific movie
- UC5: Create a new movie
- UC6: Delete a movie
- UC7: Update a movie
- UC8: Retrieve a list of all actors playing in a certain movie
- UC9: Search (full-text) over actors and movies

Think about a mapping of the "things of interest" (movies, actors) and design URI templates before you implement your Webservice. For instance: /actors/{:id} -> identifies a specific actor

The Webservce must serve XML and JSON data representations for all resources and also for search results. Distinguish between these representations by assigning separate URIs, e.g., /actors/1234.json identifies the JSON representation of a certain actor, whereas /actors/1234.xml identifies the XML representation.

Your Webservice should also implement the principle of "connectedness", meaning that returned resource representations should include links to other related resources.

For implementing your Webservice you can re-use existing code from your previous lectures. For getting started you can use our Python code skeleton, which uses

PROJECT PROPOSAL Q & A

Project and Proposal Guidelines

The project result should be a web information system that exposes information on the Web in human- and machine-readable form. We don't want to restrain your creativity by imposing too many rules. However, to make sure that your project is related to this course, we ask you to consider the following project guidelines:

- Your project idea must be novel and convincing. You cannot hand in some existing solutions from the Web or something you coded for other courses.

- The result of your project must be a Web application.

- This application must use at least one publicly available dataset from the Web. Here are some pointers to possible data sets.

- The application must clean, process, organize, and structure the data as needed.

- The application must have a Web-based user interface that generates some added value from the data for a web user (by combining data, by providing some interaction with the data (e.g. searches), by visualization of data, etc.).

- The application must provide a RESTful API to the underlying structured dataset.

- The application must either expose a Linked Data interface or provide structured data markup for its Web pages.

Your project proposal document should answer the following questions:

- Which use case/problem are you addressing with your project?

- Which datasets do you take as input? How do you transform them into a usable structure?

- What is your planned solution and how is it different from existing solutions?

- What is the estimated effort for this project (what tasks are involved, how much time do you expect to work on them) and how do you distribute work in your group?

A good proposal…

- Clearly describes the use case and the added value for the user

- Convinces us that the use case can be implemented with the given dataset(s)

- Shows that the group thought about technical aspects (architecture, data storage/ processing)

Next Steps

- **SUN Oct 14th 11:59pm**: proposal submission

- **SUN Oct 21st**: acceptance notification
  - **accept**: continue working
  - **reject**: come and talk with us about minor/major revisions (office hours)

GLOBAL DATA NETWORKS & LINKED DATA

Some context...

http://www.youtube.com/watch?v=5Cb3ik6zP2I

Why Linked Data?

Why Linked Data?

Why Linked Data?

Web Architecture

Web Architecture

- A set of simple standards
    - Uniform global addressing (URI)
    - Uniform document encoding (HTML)
    - Uniform transportation (HTTP)
- Hyperlinks connecting documents
- Works pretty well for accessing and exchanging documents
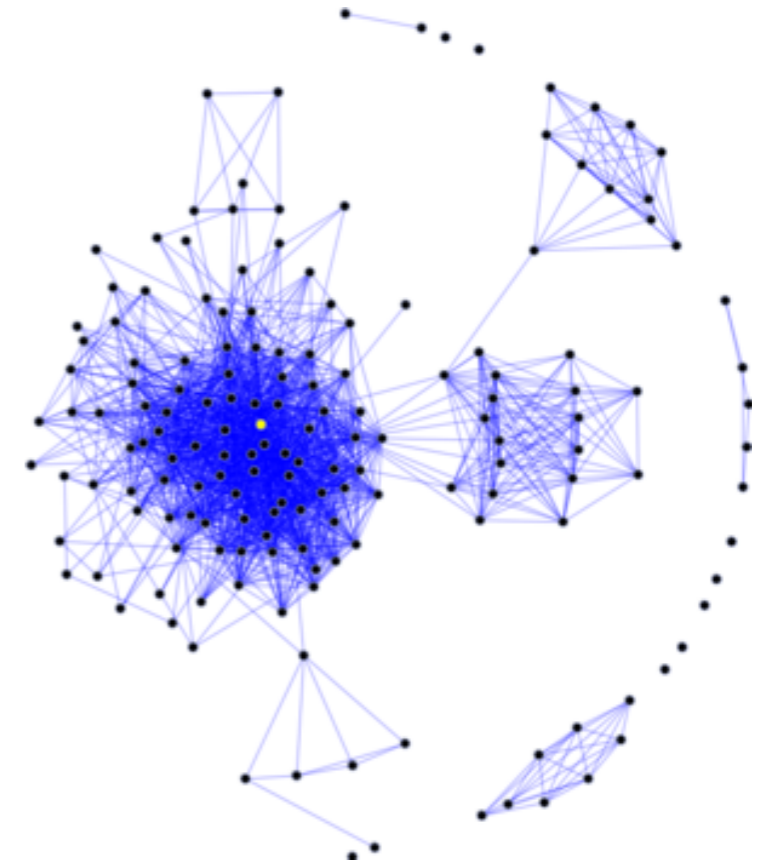
But sometimes we need to access the underlying structured data.

Pizza Suprema - New York, NY, 10001 - Citysearch
★★★★★ 39 reviews
Jun 15, 2010 ... What People Are Saying About **Pizza Suprema**. The Owner. **Pizza Suprema**. Owner. Located in Midtown, across from Penn Station and Madison Square ...
newyork.citysearch.com › Manhattan › Restaurants - Cached - Similar

Web Services and Web APIs
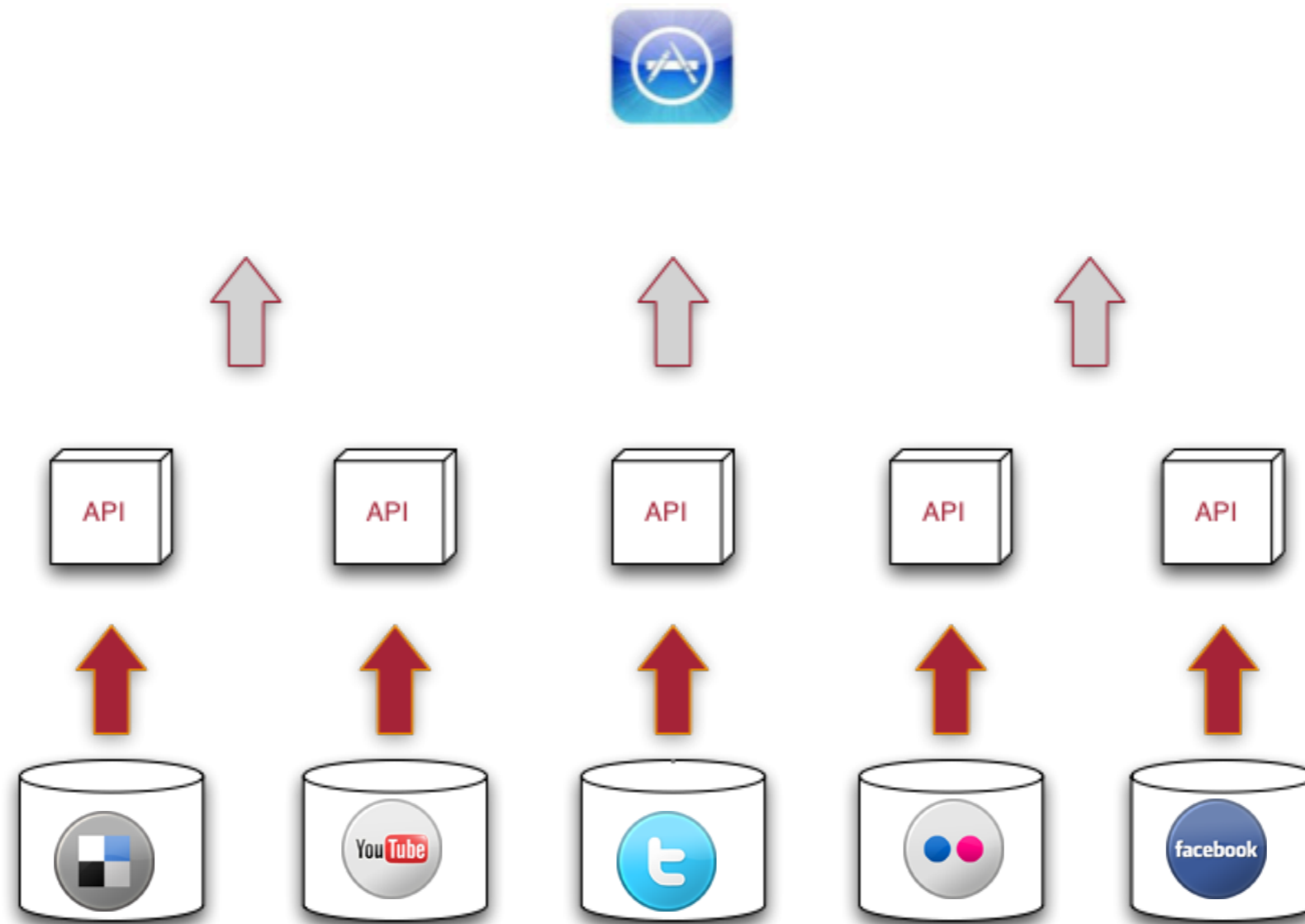
Web Services and Web APIs

- Each Web API has a proprietary interface

- Datasources must be known in advance

- Information entities (papers, authors, subjects, etc.) are often not linked
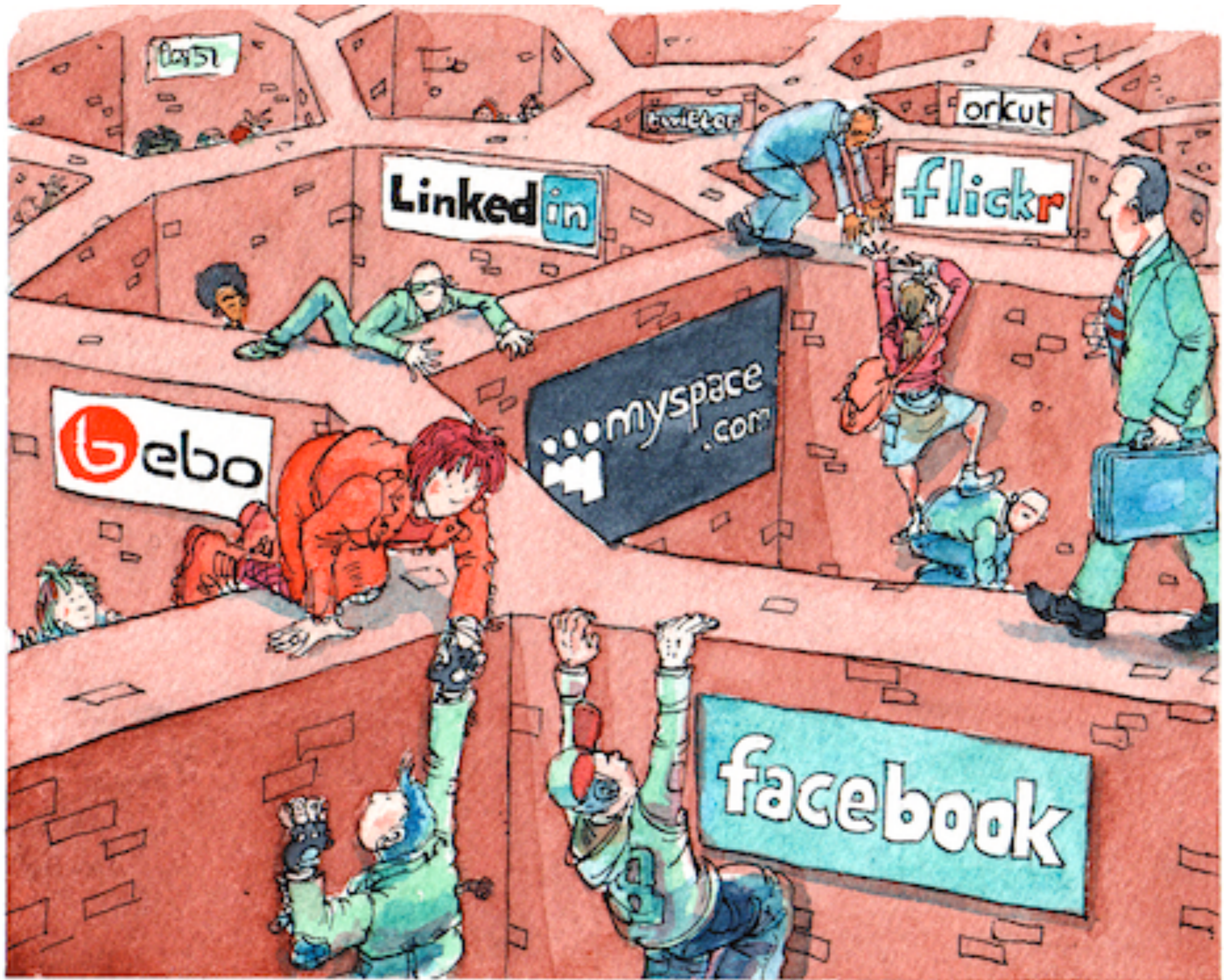
Social Networking Sites as Walled Gardens by David Simonds

Linked Data Vision

- Publish and link structured data on the Web
- Create a single globally connected data space based on the Web Architecture
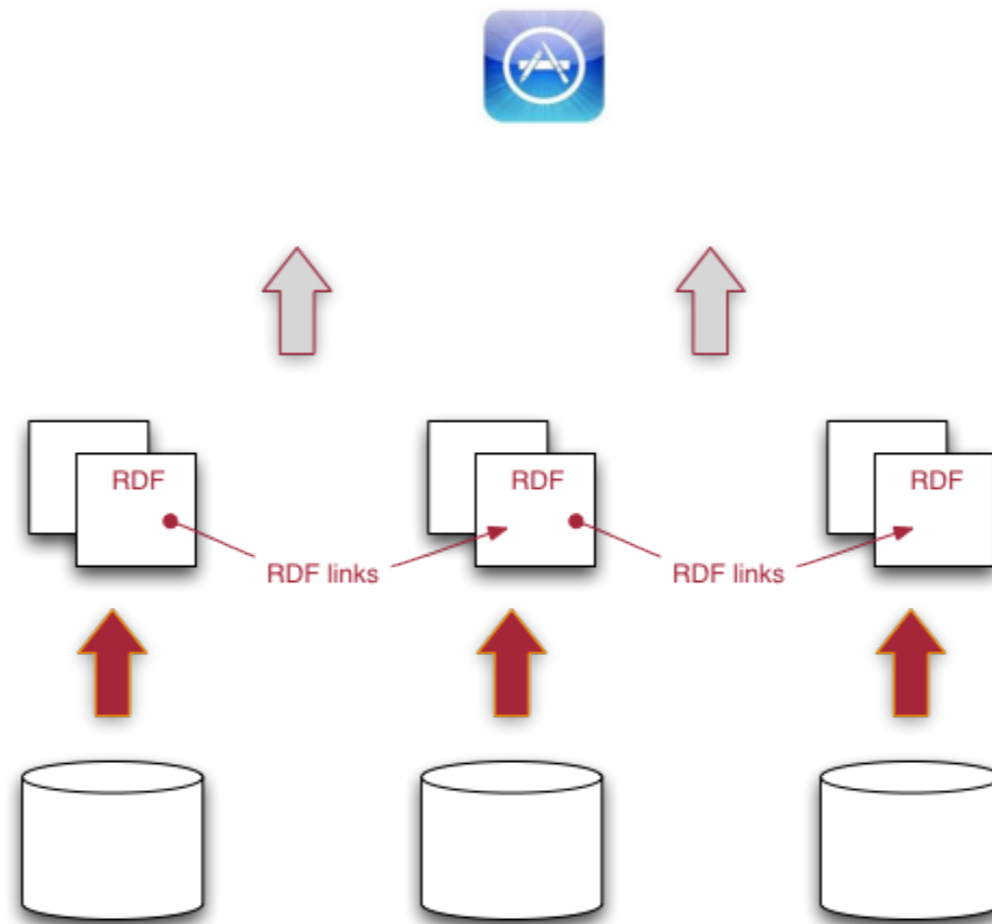
Web of Linked Data

- A set of simple standards
  - Uniform global addressing (URI)
  - Uniform data model (RDF)
  - Uniform transportation (HTTP)
- RDF links connecting entities
- Forms a global data space and facilitates accessing and exchanging data

About: The Shining (film)

An Entity of Type : work, from Named Graph : http://dbpedia.org, within Data Space : dbpedia.org

DBpedia

Shining ist ein Horrorfilm des Regisseurs Stanley Kubrick nach Stephen Kings gleichnamigem Roman, in dem sich in der Einsamkeit eines abgelegenen Berghotels ein schreckliches Familiendrama zuträgt.

| Property	Value
dbpedia-owl:Work/runtime	• 146.0
dbpedia-owl:abstract	• Shining ist ein Horrorfilm des Regisseurs Stanley Kubrick nach Stephen Kings gleichnamigem Roman, in dem sich in der Einsamkeit eines abgelegenen Berghotels ein schreckliches Familiendrama zuträgt. • El resplandor es el título de un largometraje dirigido por Stanley Kubrick en 1980 basado en la exitosa novela de terror de Stephen King del mismo nombre. Su título original en inglés es The Shining. • The Shining is a 1980 psychological horror film directed by Stanley Kubrick, based on Stephen King's novel of the same name. Director Stanley Kubrick co-wrote the screenplay with novelist Diane Johnson. The film stars Jack Nicholson as tormented writer Jack Torrance, Shelley Duvall as his wife Wendy, and Danny Lloyd as their son, Danny. Unlike most Stanley Kubrick films which saw a slow graduated release building on word-of-mouth reputation, The Shining was released in a manner more like a mass-market film, opening at first in just two cities on Memorial Day, and then a month later seeing a nationwide release (including to drive-ins) after extensive television advertising. Nonetheless, initial response to the film was mixed and at first it performed moderately at the box office. The subsequent European release was almost half an hour shorter. Later critical assessment of the film has been more favorable and it is now viewed as a classic of the horror genre by critics such as Roger Ebert and other directors like Martin Scorsese. Its iconic and surreal imagery is now deeply embedded throughout popular culture. The film tells the story of a writer, Jack Torrance (Jack Nicholson), who accepts the job of the winter caretaker at a hotel that always gets snowed in during the winter. Jack's son shares psychic abilities with the hotel's chef who calls it "shining". They can see things in the future or past, such as the ghosts of murdered people in the hotel. As the hotel becomes snowbound, Jack Torrance becomes influenced by the ghosts in the haunted hotel, descending into madness and trying to murder his wife and son. The novel's author Stephen King had very conflicted feelings about the film which have oscillated over time. A TV mini-series adaptation of the novel broadcast in 1997 saw King more actively involved. • The Shining – Hohto on Stanley Kubrickin ohjaama kauhuelokuva vuodelta 1980. Se perustuu Stephen Kingin samannimiseen romaaniin. Pääosia näyttelevät Jack Nicholson ja Shelley Duvall. Elokuva on useasti valittu yhdeksi kautta aikojen parhaista ja pelottavimmista kauhuelokuvista. Se ei nojaa raakuuteen vaan lähinnä psykologiseen kauhuun, jonka surrealistinen ohjaaja Kubrick osasi. Stephen King ei ollut alun perin tyytyväinen Hohto-elokuvaan, ja siksi vuonna 1997 ohjattiin kirjasta Mick Garrisin minisarja Stephen Kingin Hohto, joka oli lähempänä kirjailijan näkökulmaa. Elokuvan ohjauksessa Kubrick suosi pitkiä ottoja ja kamera-ajoja, joissa usein seurattiin yksittäisen henkilön tai henkilöiden liikkumista. Tämä on osittainen syy elokuvan ahdistavaan tunnelmaan. Kubrick halusi suojella nuorta Danny Lloydia elokuvan kauhuilta joten luovan ohjauksen keinoin 6-vuotias Danny ei tiennyt näyttelevänsä kauhuelokuvassa. Asia selvisi hänelle vasta vuosia elokuvan julkaisun jälkeen. Hohdosta on useita eripituisia versioita.

```
haslhofer@CALIXTO~$ rapper http://dbpedia.org/resource/The_Shining_%28film%29
rapper: Parsing URI http://dbpedia.org/resource/The_Shining_%28film%29 with parser rdfxml
rapper: Serializing with serializer ntriples
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://purl.org/dc/terms/subject> <http://dbpedia.org/resource/Category:1980_films> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/starring> <http://dbpedia.org/resource/Danny_Lloyd> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/writer> <http://dbpedia.org/resource/Stephen_King> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/editing> <http://dbpedia.org/resource/Ray_Lovejoy> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://purl.org/dc/terms/subject> <http://dbpedia.org/resource/Category:Nonlinear_narrative_films> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/writer> <http://dbpedia.org/resource/Stanley_Kubrick> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/abstract> "The Shining, geregisseerd door Stanley Kubrick, is een horrorfilm uit 1980 gebaseerd op de bestseller The Shining van Stephen King. De hoofdrol wordt gespeeld door Jack Nicholson. Hoewel de film in het begin gemengde reacties kreeg en het even geduurd heeft voordat de film een iconische status kreeg, wordt The Shining tegenwoordig door veel recensenten toch beschouwd als een van de beste horrorfilms ooit gemaakt. Stephen King zelf was minder enthousiast over deze adaptatie, met name omdat de verhaallijn met name aan het einde nogal afwijkt van het boek. Hoewel de remake uit 1997 qua plot dichter bij het origineel blijft, is deze miniserie bij het grote publiek veel minder in de smaak gevallen dan de eerste verfilming."@nl .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://xmlns.com/foaf/0.1/name> "The Shining"@en .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/producer> <http://dbpedia.org/resource/Stanley_Kubrick> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/abstract> "L\u015Bnienie \u2013 film z 1980 roku, wyre\u017Cyserowany przez Stanleya Kubricka, b\u0119d\u0105cy ekranizacj\u0105 powie\u015Bci Stephena Kinga pod tytu\u0142em Jasno\u015B\u0107 (lub L\u015Bnienie). Autorem scenariusza filmu r\u00F3wnie\u017C by\u0142 sam Kubrick. Z pocz\u0105tku film zosta\u0142 ch\u0142odno przyj\u0119ty, obecnie uznawany jest za jeden z najlepszych film\u00F3w grozy w historii kina, zar\u00F3wno przez krytyk\u00F3w, jak i widz\u00F3w. Film nie jest jednak tolerowany przez wielu zagorza\u0142ych fan\u00F3w prozy Kinga, jak r\u00F3wnie\u017C i samego pisarza, gdy\u017C fabu\u0142a zosta\u0142a znacznie zmieniona wzgl\u0119dem ksi\u0105\u017Ckowego orygina\u0142u."@pl .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/property/wordnet_type> <http://www.w3.org/2006/03/wn/wn20/instances/synset-movie-noun-1> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://www.w3.org/2002/07/owl#sameAs> <http://dbpedia.org/resource/The_Shining_%28film%29> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/property/starring> <http://dbpedia.org/resource/Danny_Lloyd> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/Work/runtime> "146.0"^^<http://dbpedia.org/datatype/minute> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/abstract> "The Shining (O Iluminado, no Brasil, e Shining, em Portugal) \u00E9 um filme estadunidense de 1980, baseado no livro hom\u00F4nimo de Stephen King. O filme foi dirigido por Stanley Kubrick e estrelado por Jack Nicholson. \u00C9 tido por muitos como o segundo melhor filme de Kubrick, e junto com ' e A Clockwork Orange, um dos mais populares."@pt .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://www.w3.org/2000/01/rdf-schema#label> "\u30B7\u30E3\u30A4\u30CB\u30F3\u30B0 (\u6620\u753B)"@ja .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/starring> <http://dbpedia.org/resource/Jack_Nicholson> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/ontology/writer> <http://dbpedia.org/resource/Diane_Johnson> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/property/wikiPageUsesTemplate> <http://dbpedia.org/resource/Template:Infobox_film> .
<http://dbpedia.org/resource/The_Shining_%28film%29> <http://dbpedia.org/property/runtime> "European edit:"@en .
<http://dbpedia.org/resource/Shining> <http://dbpedia.org/ontology/wikiPageDisambiguates> <http://dbpedia.org/resource/The_Shining_%28film%29> .
```

What is Linked Data?

- A method to build a Web of Data
- Architectural style, set of standards
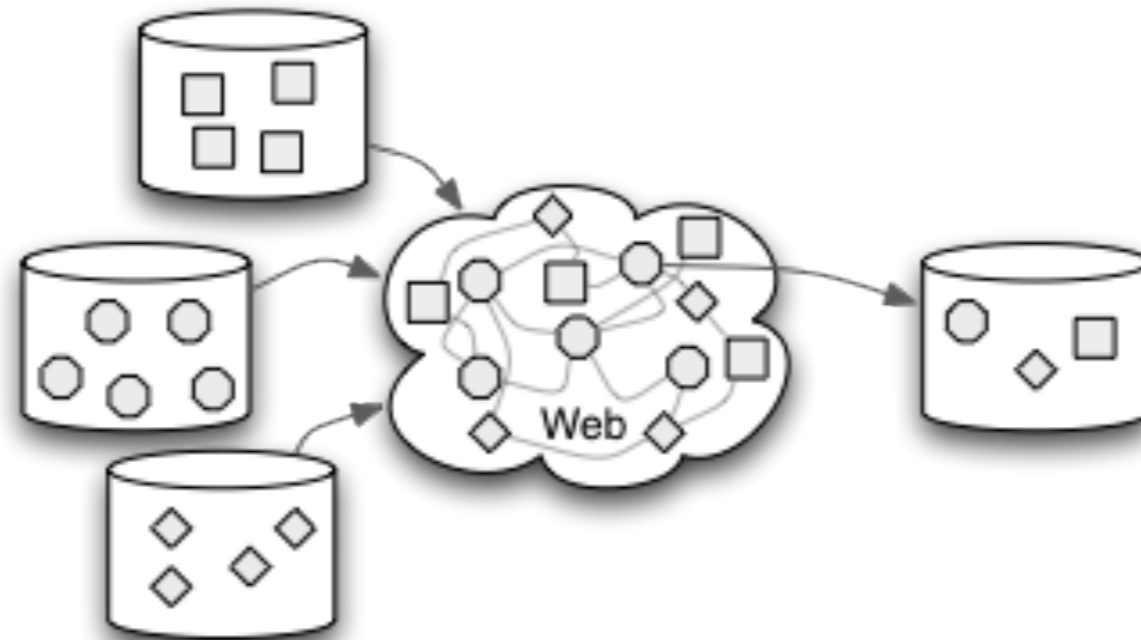
What is Linked Data?

- A set of four principles
  - use URIs as names for things
  - use HTTP URIs so that people can look up those names
  - when someone looks up a URI, provide useful information, using the standards (RDF, SPARQL)
  - include links to other URIs, so that they can discover more things

Linking Open Data Project

- Open Data: a philosophy, practice, or policy that data are freely available to everyone without restrictions from copyright, patents, a.s.o.

- Linked Data: method / best practices for exposing, sharing, and connecting data using URIs and RDF

- Linking Open Data: a W3C community project with the goal to extend the Web with a data commons by publishing various open data sets as RDF on the Web and by setting links between data items from different sources

BBC Later + TOTP

NEW!
Onto-world

Sem-Web-Central

Fresh-meat

NEW!
ISWC ASWC 2007

DBtune

Music-brainz

FOAF

ECS South-ampton

SIOC

Jamendo

Geo-names

Open-Guides

Revyu

RDF Book Mashup

DBpedia

US Census Data

World Fact-book

NEW!
lingvoj

DBLP Berlin

Euro-stat

NEW!
Open Cyc

flickr wrappr

Gov-Track

Wiki-company

W3C WordNet

Project Guten-berg

DBLP Hannover

As of September 2008

As of July 2009

As of September 2010

Media

Geographic

Publications

User-generated content

Government

Cross-domain

Life sciences

As of September 2011

BBC

Text only | Help

Search   **Explore The BBC**

Music BETA

BBC Music > Artists > Green Day

Green Day

Group. Formed 1989.

MOST PLAYED ON **BBC** RADIO **1**

Played By

Since December 2008

Scott Mills
1 BBC Radio 1

Go home with Mills as he entertains the nation

Edith Bowman
1 BBC Radio 1

Interactive entertainment with movie guests

Greg James
1 BBC Radio 1

Great new music and chat with the earliest breakfast show on the radio

Jo Whiley
1 BBC Radio 1

Latest News Stories

NEWS FROM THE BBC

Tour latest
Mon 27 Apr 2009 15:25

BBC – Music – Green Day

http://www.bbc.co.uk/music/artists/084308bd-1654-436f-ba03-df6697104e19   Google

Apple – Supp...unibody) ...   Apple   Yahoo!   Google Maps   YouTube   Wikipedia   CBIR ▾   LinkedData ▾   InfoRetrieval ▾

More Green Day News »

Biography

Green Day is an American rock trio formed in 1987. The band has consisted of Billie Joe Armstrong (vocals, guitar), Mike Dirnt (bass guitar, vocals), and Tré Cool (drums, percussion) for the majority of its existence.

Green Day was originally part of the punk rock scene at 924 Gilman Street in Berkeley, California. Its early releases for independent record label Lookout! Records earned them a grassroots fanbase, some of whom felt alienated when the band signed to a major label. Nevertheless, its major label debut Dookie (1994) became a breakout success and eventually sold over 10 million copies in the U.S. and 15 million worldwide. As a result, Green Day was widely credited, alongside fellow California punk bands The Offspring and Rancid, with reviving mainstream interest in and popularizing punk rock in the United States. Green Day's three follow-up albums, Insomniac, Nimrod and Warning did not achieve the massive success of Dookie, but they were still successful, reaching double platinum, double platinum, and gold status respectively. Green Day's 2004 rock opera American Idiot reignited the band's popularity with a younger generation, selling five million copies in the U.S. The band's eighth studio album, 21st Century Breakdown, will be released on May 15, 2009.

Green Day has sold over 65 million records worldwide,[citation needed] with 22 million of them being sold in the United States. They have won three Grammy Awards; Best Alternative Album for Dookie, Best Rock Album for American Idiot, and Record of the Year for "Boulevard of Broken Dreams".

Read more at Wikipedia...

WIKIPEDIA This entry is from Wikipedia, the user-contributed encyclopedia. It may not have been reviewed by professional editors and is licensed under the GNU Free Documentation License. If you find the biography content factually incorrect, defamatory or highly offensive you can edit this article at Wikipedia. Find out more about our use of this data .

BBC Reviews

The Chris Moyles Show
① BBC Radio 1

Chris Moyles and the team kick off the morning with top banter and big name quests

Colin Murray
① BBC Radio 1

New music and alternative classics

Information displayed about artists played on BBC programmes is incomplete at present. Find out more about this artist play count informat

Played On

Since December 2008

① **BBC Radio 1**

⑥ **BBC 6 Music**

② **BBC Radio 2**

Information displayed about artists played on BBC radio networks is incomplete at present. Find out more about this artist play count informat

Members

Billie Joe Armstrong

Mike Dirnt

Tré Cool

Information about group members comes from MusicBrainz. You can ad or edit information about Green Day at musicbrainz.org. Find out more about our use of this data .

The New York Times

Linked Open Data BETA

Search data.nytimes.com
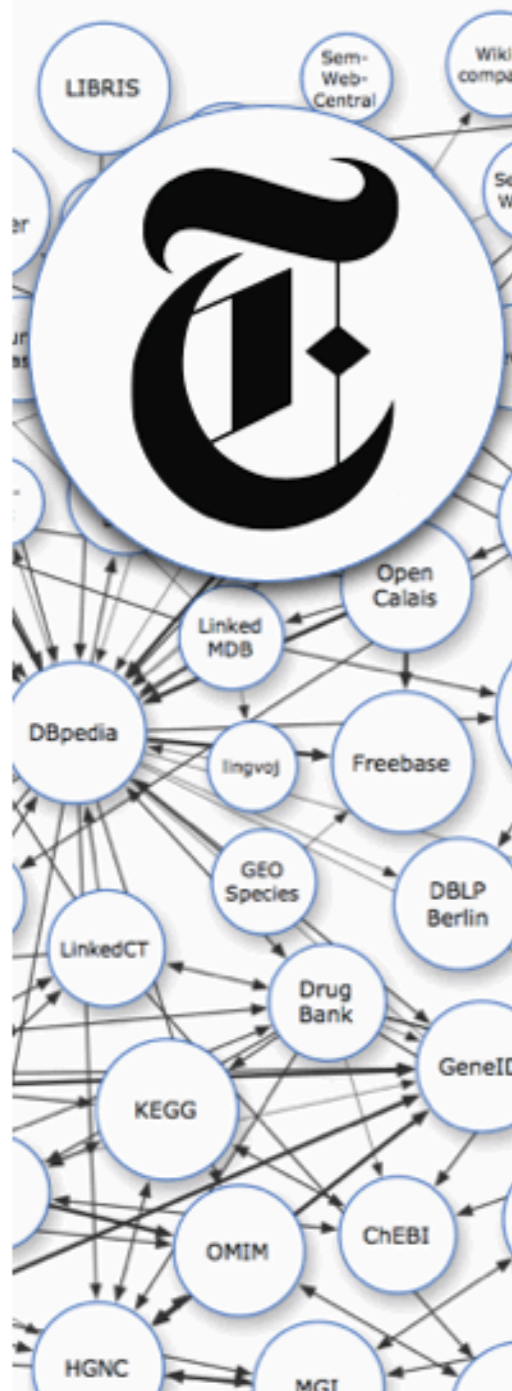
data.nytimes.com

For the last 150 years, The New York Times has maintained one of the most authoritative news vocabularies ever developed. In 2009, we began to publish this vocabulary as linked open data.

The Data

As of 13 January 2010, The New York Times has published approximately ,10,000 subject headings as linked open data under a CC BY license. We provide both RDF documents and a human-friendly HTML versions. The table below gives a breakdown of the various tag types and mapping strategies on data.nytimes.com.

Type	Manually Mapped Tags	Automatically Mapped Tags	Total
People	4,978	0	4,978
Organizations	1,489	1,592	3,081
Locations	1,910	0	1,910
Descriptors	498	0	498
			10,467

Browse individual data records:

A B C D E F G H I J K L M N O P Q R S T U V W X Y Z

SKOS Files

Download all of the data records as SKOS Files.

· People

GeoNames Home | Postal Codes | Download / Webservice | About | search

GeoNames Ontology

The Semantic Web

The *Semantic Web* is a project that intends to add computer-processable meaning (semantics) to the Word Wide Web.

In Feb 2004, The World Wide Web Consortium released the Resource Description Framework (RDF) and the *OWL Web Ontology Language* (OWL) as W3C Recommendations. RDF is used to represent information and to exchange knowledge in the Web. OWL is used to publish and share sets of terms called ontologies, supporting advanced Web search, software agents and knowledge management.

The GeoNames Ontology

The GeoNames Ontology makes it possible to add geospatial semantic information to the Word Wide Web. All over 6.2 million geonames toponyms now have a unique URL with a corresponding RDF web service. Other services describe the relation between toponyms.

The Ontology for GeoNames is available in OWL : http://www.geonames.org/ontology/ontology_v2.2.1.rdf

GeoNames is using *303 (See Other) redirection* to distinguish the **Concept** (thing as is) from the **Document** about it.

For the town *Embrun* in France we have these two URIs :
[1] http://sws.geonames.org/3020251/
[2] http://sws.geonames.org/3020251/about.rdf

The first URI [1] stands for the town in France. You use this URI if you want to refer to the town. The second URI [2] is the document with the information geonames has about *Embrun*. The geonames web server is configured to redirect requests for [1] to [2]. The redirection tells Semantic Web Agents that *Embrun* is not residing on the geonames server but that geonames has information about it instead. See our blog posting about "Concept vs. Document" for more information.

An example of RDF description of a geonames "Feature" document, as obtained through the RDF Webservice at URI http://sws.geonames.org/3020251/about.rdf

```
<rdf:RDF
        xmlns:cc="http://creativecommons.org/ns#"
```

Freebase

www.freebase.com

Gilby | LinkedData | Annotations | InfoRetrieval | statistics cource | Import to Mendeley | Marie Curie | Misc | Other Bookmarks

Freebase | Find topics... | **Data** **Schema** **Apps** **Docs** | Sign In or Sign Up

An entity graph of people, places and things, built by a community that loves open data.

	Sort by [write activity]	Feb 19	Mar 19	last week	**Facts**	**Topics**	Top User

Featured Data

Arts & Entertainment

Products & Services

Science & Technology

Society

Special Interests

Sports

System

Time & Space

Transportation

All

Music 100+ members — 37K last week — 35M | 10M

Film 80 members — 29K last week — 4M | 532K

People 81 members — 14K last week — 7M | 2M

TV 35 members — 6K last week — 8M | 1M

Books 47 members — 2K last week — 29M | 6M

Location 50 members — 2K last week — 11M | 973K

Government 44 members — 414 last week — 492K | 120K

Business 100+ members — 257 last week — 2M | 608K

Google **Refine**

An open source power tool to fix, discover, experiment, connect and customize your data. **Learn more »**

What is **Freebase**?

Learn what an entity graph is, what kind of information it contains, and why you should add your data!

Learn More »

Freebase for Developers

- powerful queryable API
- JavaScript-based hosting framework
- libraries for other languages

Learn More »

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Discussion List

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→ **About**
→ **Vocabulary Descriptions**
→ **Search**
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About

The Library of Congress Authorities and Vocabularies service enables both humans and machines to programmatically access authority data at the Library of Congress via URIs.

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Enter Keyword or Phrase

Hold CONTROL key for 2 or more

All
Library of Congress Subject

🇺🇸 *An Official Web Site of the United States Government*   Saturday, April 16, 2011   Text: A⁺A⁻A   Share ⊞

DATA.GOV
EMPOWERING PEOPLE

🔍 Search our catalogs..   **SEARCH ▸**

HOME   **DATA ▾**   **TOOLS**   **COMMUNITY**   **METRICS**   **OPEN DATA SITES**   **GALLERY**   **WHAT'S NEW**

# Semantic Catalog (RDF)

Page 1 of 1 (303 records)   « ‹ 1 › »   Results per page: 25 | 50 | 100

Name (click for metadata and to rate Dataset/Tools)	Agency/Sub-Agency	Category	RDF ▸	Number of RDF Triples
2007 Merit Principles Survey: Performance Management Measures 2007 survey responses from selected Federal agencies summarizing the existence of positive performance management practices and employee engagement scores for each agency...	MSPB	Federal Government Finances and Employment	◄ RDF 30 KB	5,573
2007 Veterans Employability Research Survey The 2007 Veterans Employability Research Survey (VERS) was conducted to determine the factors that impact veterans' employability resulting from participation in the VR&E...	VA	Federal Government Finances and Employment	◄ RDF 4 MB	1,293,743
2008 Community Reinvestment Act (CRA) Aggregate Data 2008 data on small business, small farm, and community development lending reported by certain commercial banks and savings institutions, pursuant to the Community Reinve...	FRB	Banking, Finance, and Insurance	◄ RDF 22 MB	7,009,442
2008 Home Mortgage Disclosure Act (HMDA) Loan Application Register (LAR) Data 2008 home mortgage loan application register data reported by certain banks, credit unions, savings associations, and non-depository institutions pursuant to the Home Mor...	FRB	Banking, Finance, and Insurance	◄ RDF 1,557 MB	571,548,561
Active Duty Marital Status Marital Status of Active Duty Forces	DOD	Population	◄ RDF 4 KB	533
Annual Survey of Jails: Individual Reporting-Level Data, 2007 This collection provides annual data on jail populations across the nation. These data are used to track growth in the number of jails and their capacities nationally, ch...	DOJ/BJS	Law Enforcement, Courts, and Prisons	◄ RDF 392 KB	119,385

Aviation Accident Statistics: Accidents, Fatalities, and Rates, 1989 - 2008, for

Annotatelt   CALIXTO ON CHROM
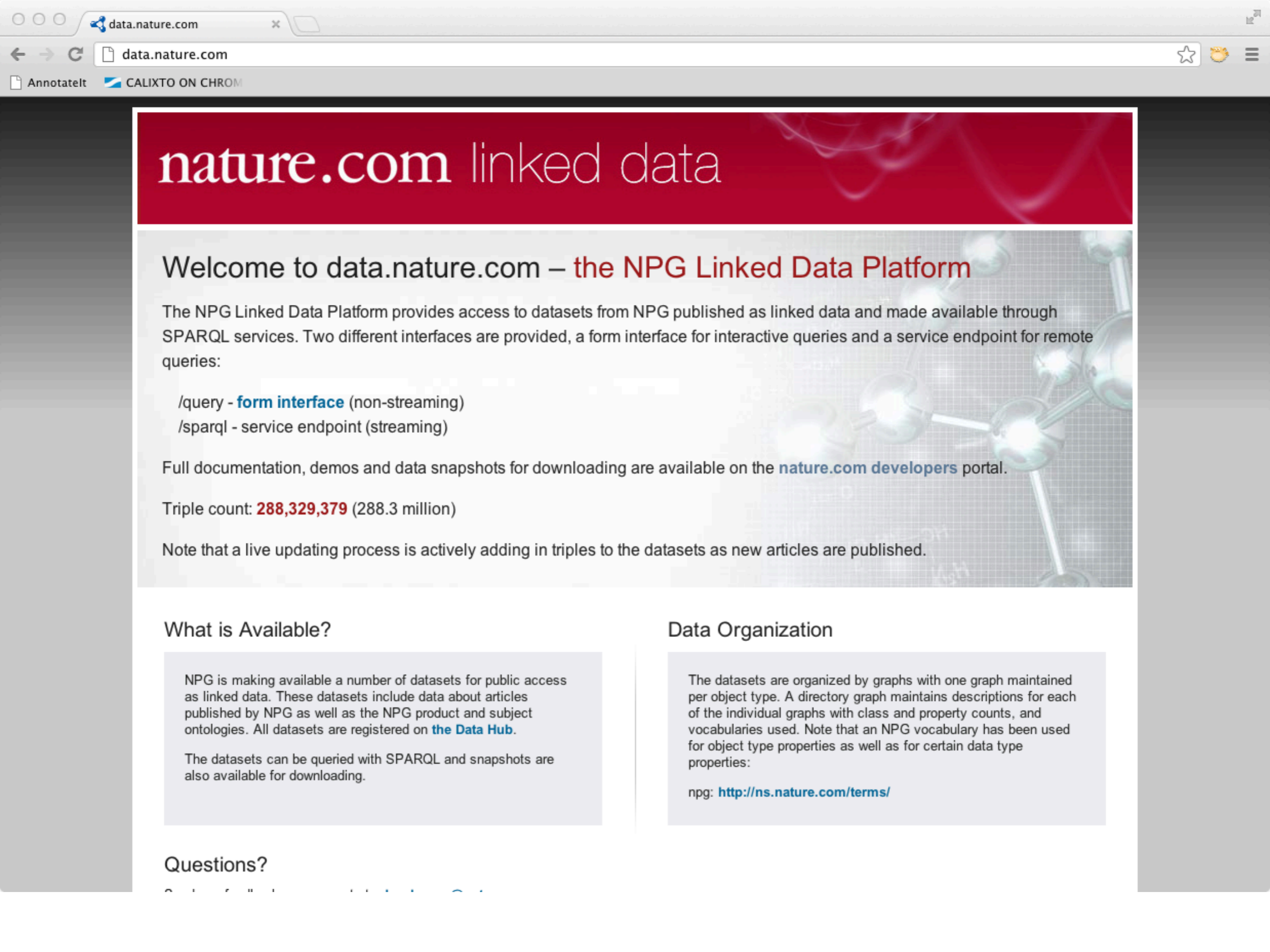
nature.com linked data

Welcome to data.nature.com – the NPG Linked Data Platform

The NPG Linked Data Platform provides access to datasets from NPG published as linked data and made available through SPARQL services. Two different interfaces are provided, a form interface for interactive queries and a service endpoint for remote queries:

/query - **form interface** (non-streaming)
/sparql - service endpoint (streaming)

Full documentation, demos and data snapshots for downloading are available on the **nature.com developers** portal.

Triple count: **288,329,379** (288.3 million)

Note that a live updating process is actively adding in triples to the datasets as new articles are published.

What is Available?

NPG is making available a number of datasets for public access as linked data. These datasets include data about articles published by NPG as well as the NPG product and subject ontologies. All datasets are registered on **the Data Hub**.

The datasets can be queried with SPARQL and snapshots are also available for downloading.

Data Organization

The datasets are organized by graphs with one graph maintained per object type. A directory graph maintains descriptions for each of the individual graphs with class and property counts, and vocabularies used. Note that an NPG vocabulary has been used for object type properties as well as for certain data type properties:

npg: **http://ns.nature.com/terms/**

Questions?

schema.org

What is Schema.org?

This site provides a collection of schemas, i.e., html tags, that webmasters can use to markup their pages in ways recognized by major search providers. Search engines including Bing, Google and Yahoo! rely on this markup to improve the display of search results, making it easier for people to find the right web pages.

Many sites are generated from structured data, which is often stored in databases. When this data is formatted into HTML, it becomes very difficult to recover the original structured data. Many applications, especially search engines, can benefit greatly from direct access to this structured data. On-page markup enables search engines to understand the information on web pages and provide richer search results in order to make it easier for users to find relevant information on the web. Markup can also enable new tools and applications that make use of the structure.

A shared markup vocabulary makes easier for webmasters to decide on a markup schema and get the maximum benefit for their efforts. So, in the spirit of sitemaps.org, Bing, Google and Yahoo! have come together to provide a shared collection of schemas that webmasters can use.

We invite you to get started!

Last Updated: 27 May 2011

Terms and conditions

Recommended Readings

- Linked Data Web Site: http://linkeddata.org

- Linked Data / Semantic Web Introduction: http://www.linkeddatatools.com/semantic-web-basics

- Tim Berners-Lee. Linked Data Design Issues: http://www.w3.org/DesignIssues/LinkedData.html